

SUPEROXIDE AND NEUTROPHILS: RECENT STUDIES

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Neutrophils incubated with ³²P_i incorporate label into many proteins. The extent of labelling of some of these proteins changes when the cells are activated. The changes affect both cytosolic and particulate proteins. Those affecting cytosol proteins are blocked by trifluoperazine. Neutrophil activation is completely abolished by crosslinkers. Activation is fully restored when the crosslinker is cleaved. E.coli minicells containing a 10 kb plasmid were fed to neutrophils, and the fate of the plasmid was studied by agarose gel electrophoresis. Little plasmid degradation was seen. This finding suggests that the lethal action of neutrophils may not result from DNA damage.

THE O₂⁻-GENERATING ENZYME, NADPH-OXYGEN OXIDOREDUCTASE OF PULMONARY MACROPHAGES. Anne P. Autor, The Toxicology Center, Department of Pharmacology, The University of Iowa, Iowa City, IA 52242.

NADPH-oxygen oxidoreductase found in the plasma membrane of pulmonary macrophages, as well as another phagocyte cell, the blood leukocyte, is one of the important sources of extracellular oxygen radicals. An FAD-requiring enzyme, NADPH-oxygen oxidoreductase directly reduces molecular oxygen to produce O₂⁻ in the ratio of NADPH:O₂⁻ = 1:2. Cellular activity is expressed only upon stimulation with particulates or membrane perturbants, such as phorbol myristate acetate. Kinetic characteristics of the non-stimulated and the stimulated enzyme will be discussed.